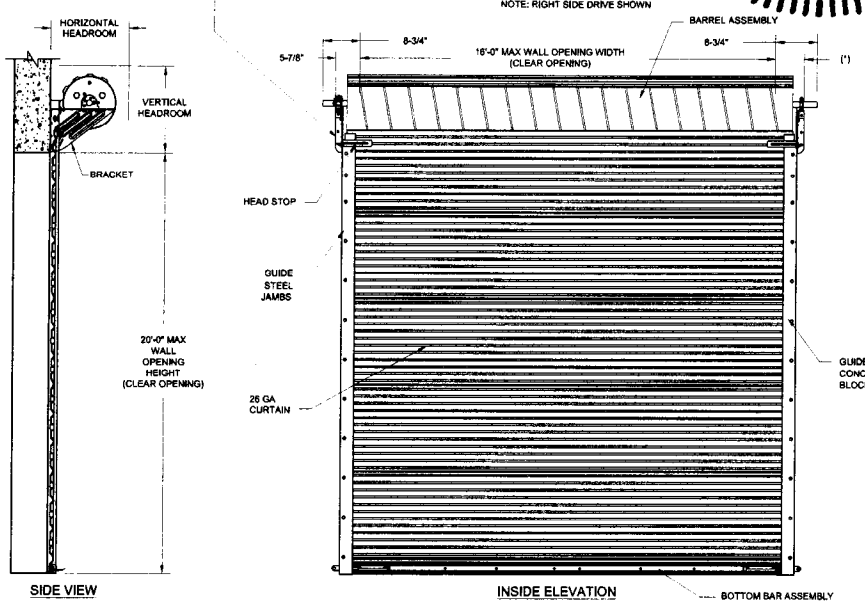
JOSEPH H. DIXON, JR. LICENSE No. 7768 STATE OF FLORIDA PROFESSIONAL ENGINEER

4/1/14

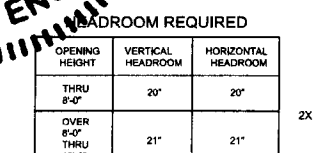
BRACKET ATTACHMENT
CONCRETE/FILLED BLOCK: POWERS WEDGE-BOLT, 3/8 X 1-3/4" LONG
STEEL: HEX BOLT, GR.5, 3/8-16 X 1-1/4" LONG

(*) FOR PUSH-UP OPERATION: 5-7/8"
FOR HAND CHAIN OPERATION: 6-5/8"
FOR ELECTRIC OPERATION: 7-3/8"
FOR OUTSIDE OF CHAIN DRIVE: 8-1/8"
NOTE: RIGHT SIDE DRIVE SHOWN



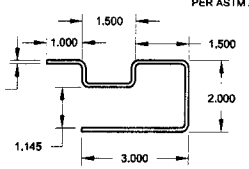
HEADROOM REQUIRED

OPENING HEIGHT	VERTICAL HEADROOM	HORIZONTAL HEADROOM
THRU 8'-0"	20"	20"
OVER 8'-0" THRU 10'-0"	21"	21"
OVER 10'-0" THRU 14'-0"	21-1/2"	21"
OVER 14'-0" THRU 16'-0"	22"	21"
OVER 16'-0" THRU 18'-0"	22"	22"
OVER 18'-0" THRU 20'-0"	22"	22"

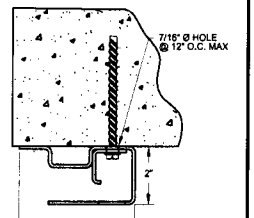


WINDBAR

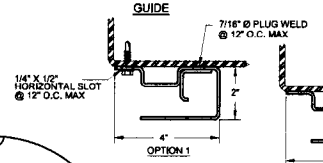
ALL COMPONENTS SHALL BE ASTM A653 STEEL W/MIN FY=33 KSI GALVANIZED PER ASTM A653 G-90



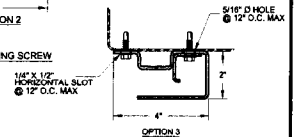
GUIDE

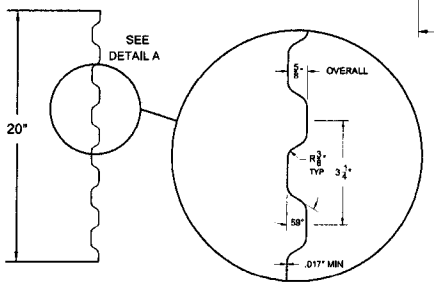


CONCRETE/FILLED BLOCK JAMBS USING 3/8" X 4" POWERS WEDGE BOLT



STEEL JAMBS USING 1/4-14 X 1" SELF DRILLING SCREW

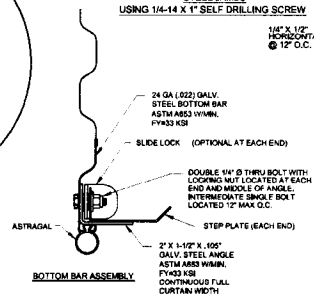




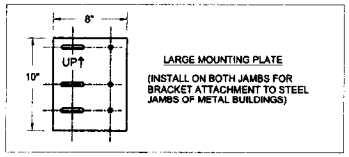
26 GA. CURTAIN PANEL

DETAIL A

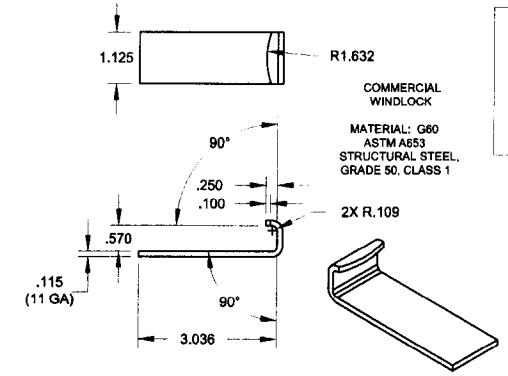
ASTM A653 GR 80 ZINC COATED STEEL
PRE-PAINTED WITH FULL COAT OF PRIMER AND
BAKED SILICONIZED POLYESTER FINISH COAT



12 GA (.105) GUIDE MOUNTING DETAIL



LARGE MOUNTING PLATE
(INSTALL ON BOTH JAMBS FOR BRACKET ATTACHMENT TO STEEL JAMBS OF METAL BUILDINGS)



COMMERCIAL WINDLOCK

MATERIAL: G60 ASTM A653 STRUCTURAL STEEL, GRADE 50, CLASS 1

SEE SHEET 2 FOR NOTES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
—	DRAWING RELEASE	1-31-03	DM
A	GUIDE ATTACH AT TOE	11-13-03	DM
B	ADD GUIDE OPTION 3	4-13-04	DM
C	NOTE REVISION	6-17-09	CS
D	ADDED "T" BRACKET OPTION	1-20-12	CS
E	ADDED CHARTED PSF VALUES	2-28-14	CS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES LISTED BELOW.

DECIMAL	FRACTIONS	ANGLES	HOLE DIAMETERS	
X.XX +/-0.030"	+/-1/16"	+/- 0° 30'	UNDER 0.251	+ 0.004 - 0.003
X.XXX +/-0.005"			0.251 - 0.500	+ 0.006 - 0.003
			OVER 0.500	+ 0.008 - 0.003

PART NUMBER:		
MATERIAL:		
APPLIED FINISH:		
UNIT OF MEASURE:		
APPROVALS		DATE
DRAWN: BECKY NELSON		1-31-03
CHECKED: DON MILLS		1-31-03
APPROVED: DON MILLS		1-31-03

JANUS INTERNATIONAL CORPORATION
135 JANUS INTERNATIONAL BLVD TEMPLE, GA 30179
770-562-2850/Fax 770-562-2264

CERTIFIED WIND LOAD RATED
26 GA SERIES 3100 DOOR ASSEMBLY
MAX. SIZE 16'-0" X 20'-0"

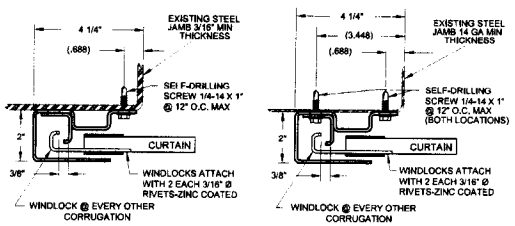
SIZE	DRAWING NUMBER	REV:
B	T1004	E

SCALE: NONE SHEET: 1 OF: 2

JOSEPH H. DIXON, JR. LICENSE No. 7768 STATE OF FLORIDA PROFESSIONAL ENGINEER

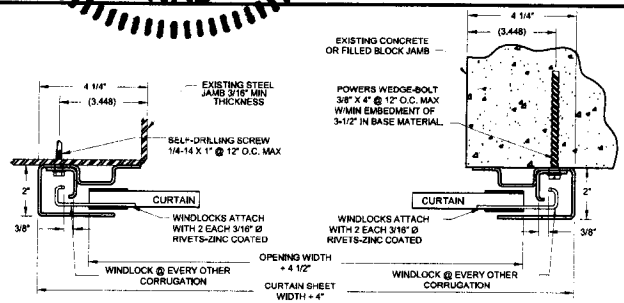
4/1/14

STEEL JAMBS - LH GUIDE MOUNT SHOWN



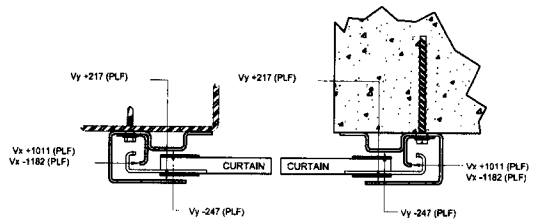
OPTION 1

OPTION 3



OPTION 2

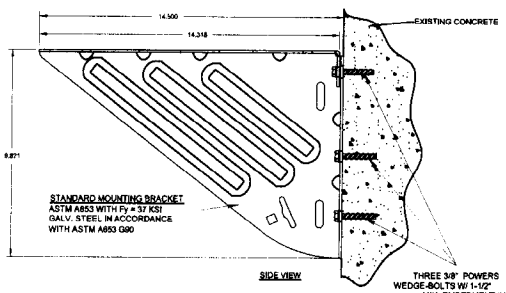
CONCRETE/FILLED BLOCK JAMBS
RH GUIDE MOUNT SHOWN

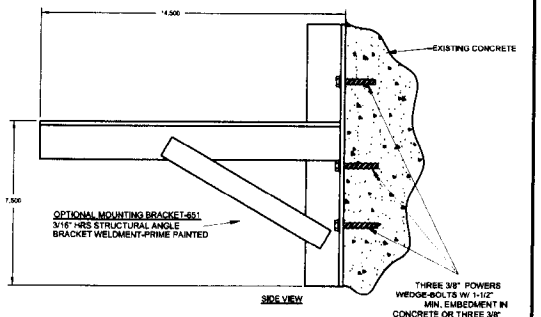


CONCRETE/FILLED BLOCK JAMBS
RH GUIDE MOUNT SHOWN

SUPERIMPOSED LOAD DIAGRAM-OPTIONS 1-3

DOOR MOUNTING BRACKET DETAIL





GENERAL NOTES

1. THIS ROLL-UP DOOR SYSTEM IS DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) AND INTERNATIONAL BUILDING CODE (IBC). THE REQUIRED DESIGN WIND PRESSURES FOR A DOOR IN ANY PARTICULAR BUILDING SHALL BE DETERMINED IN ACCORDANCE WITH SECTION 1609 OF THE FBC. IN CODE JURISDICTIONS OUTSIDE OF FLORIDA, REQUIRED DESIGN WIND PRESSURES MAY BE DETERMINED IN ACCORDANCE WITH SECTION 1609 OF THE IBC OR WITH THE LOCAL BUILDING CODE IN EFFECT FOR THE SPECIFIC LOCATION.
2. THIS ROLL-UP DOOR HAS BEEN SUCCESSFULLY TESTED ACCORDING TO THE UNIFORM STATIC AIR PRESSURE TEST PER ASTM E330 AND ANSI/DASMA 108 TO SAFELY RESIST A POSITIVE AND NEGATIVE WIND LOAD AS NOTED BELOW. A TEST LOAD OF 1.5 X DESIGN LOAD HAS BEEN USED.

   DESIGN LOAD = $^{+36.0}_{-41.0}$ PSF
3. WIND LOADS FOR BUILDING OPENINGS SHALL BE DETERMINED BY A PROFESSIONAL ENGINEER USING APPROPRIATE WIND SPEED AND DESIGN CRITERIA. THIS DOOR MAY BE USED WHERE THE DESIGN LOAD MEETS OR EXCEEDS THE DESIGN LOAD FOR THE BUILDING OPENING.
4. SUPERIMPOSED LOADS ON THE JAMBS FROM THIS DOOR ARE DESIGNED AS Vx AND Vy HEREIN. CONTRACTORS SHALL HAVE BUILDING ENGINEER VERIFY ADEQUACY OF BUILDING STRUCTURE TO RESIST SUPERIMPOSED LOADS Vx, Vy.
5. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS IN ACCORDANCE WITH A.W.S. SPECIFICATIONS, LATEST EDITION. ALL WELDING ELECTRODES SHALL CONFORM TO A.W.S. A5.1 GRADE E-70.
6. DOORS SHALL BE PROVIDED WITH LOCK MECHANISHMS AT THE OPTION OF THE OWNER.
7. ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 80 KSI.
8. DESIGN BASED ON CERTIFIED TESTING LABORATORIES, INC. TEST REPORTS NO. CTLA-1024W FOR THROUGH GUIDE ATTACHMENT TO JAMB AND NO. CTLA-1184W FOR TOE OF GUIDE ATTACHMENT TO JAMB.
9. ANCHOR NOTES:
   A. EMBEDMENT LENGTH DOES NOT INCLUDE STUCCO FINISH.
   B. FOR HOLLOW MASONRY, FILL ALL CELLS @ ANCHOR WITH 2500 PSI GROUT.
   C. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
10. DOOR OPERATION TYPE TO BE PUSH-UP, HAND CHAIN, OR ELECTRIC.
11. GUIDE TO JAMB ATTACHMENT FASTENERS BEGIN 4" FROM FLOOR AND 4" BELOW TOP OF THE WALL OPENING.
12. TEST DOOR WALL OPENING SIZE: 12 ' - 0" X 8' - 0".

REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
—	DRAWING RELEASE	1-31-03	DM
A	GUIDE ATTACH AT TOE	11-13-03	DM
B	ADD GUIDE OPTION 3	4-13-04	DM
C	NOTE REVISION	6-17-09	CS
D	ADDED "T" BRACKET OPTION	1-20-12	CS
E	ADDED CHARTED PSF VALUES	2-28-14	CS

ALLOWABLE TRANSVERSE DESIGN WIND LOADS (PSF)

MAX DOOR WIDTH	MAX DOOR HEIGHT	DESIGN LOAD POSITIVE (PSF)	DESIGN LOAD NEGATIVE (PSF)
8'-0"	20'-0"	77.4	86.4
9'-0"	20'-0"	61.3	68.9
10'-0"	20'-0"	50.2	56.7
11'-0"	20'-0"	42.1	47.7
12'-0"	20'-0"	36.0	41.0
13'-0"	20'-0"	31.3	35.8
14'-0"	20'-0"	27.5	31.6
15'-0"	20'-0"	24.5	28.1
16'-0"	20'-0"	22.0	25.3

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES LISTED BELOW.

DECIMAL	FRACTIONS	ANGLES	HOLE DIAMETERS	
X.XX +/-0.030"	+/-1/16"	+/- 0° 30'	UNDER 0.251	+ 0.004 - 0.003
X.XXX +/-0.005"			0.251 - 0.500	+ 0.006 - 0.003
			OVER 0.500	+ 0.008 - 0.003

PART NUMBER:	
MATERIAL:	
APPLIED FINISH:	
UNIT OF MEASURE:	
APPROVALS	DATE
DRAWN: BECKY NELSON	1-31-03
CHECKED: DON MILLS	1-31-03
APPROVED: DON MILLS	1-31-03

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CERTIFIED WIND LOAD RATED
26 GA SERIES 3100 DOOR ASSEMBLY
MAX. SIZE 16'-0" X 20'-0"

SIZE	DRAWING NUMBER:	REV:
B	T1004	E
SCALE: NONE		SHEET: 2 OF: 2

Joseph H. Dixon, Jr. P.E.
Product Design Consultant *Florida No. 7768* 3952 Lake Mira Ct.
407-671-0169 Orlando, FL 32817

March 24, 2014

EVALUATION REPORT No.: **ER-14-0001**

Reference No.: 29018_32003_32041_34012

Product: Exterior Doors - Rolling Overhead Doors
Series 3100

Manufacturer: Janus International Corporation
135 Janus International Blvd.
Temple, GA 30179-4435

Statement of Compliance:

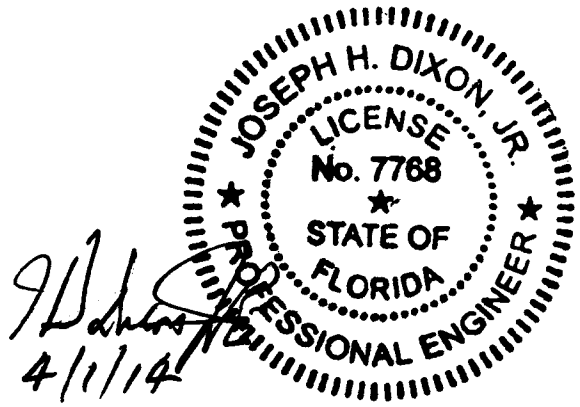
The Rolling Doors Series 3100 described in this report were evaluated to be in compliance with the 2010 Florida Building Code. The doors are, for the purpose intended, at least equivalent to that required by the Code when manufactured and installed as described below.

Description of the Product:

All doors consist of a corrugated steel sheet curtain suspended from a drum roller. The curtain on all models is suspended from a drum roller. Coiling around the drum raises the curtain. The sides of the curtain are constrained from lateral movement along their vertical edges by steel guides that are attached to the door jambs. This constraint provides resistance to lateral wind forces. Various guide configurations are used for the different door styles included in this report. The lateral wind forces are transferred from the curtain to the guides and then through the attachment elements to the door jamb. The door jambs are part of the main wind frame resisting system and usually are constructed of steel, concrete, or concrete masonry units.

Series 3100 (Commercial Door)

Door curtains have a thickness of 26 gage (min. 0.017 in.) and are made of ASTM A653 structural steel, grade 80, pre-painted, galvanized steel with a full coat of primer and baked siliconized polyester finish coat The corrugated sheets are interlocked mechanically to form the curtain. Lap splices are at approximately 20 inches on center vertically in the installed door. The corrugation height is approximately 5/8 inches and the corrugation pitch is 3.25 in. Style variations include door width, and wind load rating. Maximum door height is limited to 20'-0". The door is described in detail on drawing T1004 Rev E, dated 2/28/14.



Two complete tests were conducted on a 12'-0" wide door. One test used the Option 1 Guide and the other used the Option 2 Guide for attachment to the steel jamb. Maximum allowable design wind pressures for door widths 8'-0' through 11'-0" and 13'-0" through 16'-0" were calculated using a comparative analysis maintaining a constant catenary force on the guides. Doors widths less than 8'-0" may be used for the same design wind pressure as the 8'-0" wide door provided all other requirements on drawing T1004 Rev E remain unchanged. Design wind pressures for door widths of 8'-0" through 16'-0" are shown in Table 1 of this report. All doors shown on drawings T1004 Rev E have windlocks.

Drawings
The Door Series covered by this report is described in detail on the following Janus International Corporation drawings:

Drawing T1004 Rev E: 16'-0" wide max. by 20'-0" high max., shts 1 and 2 of 2, revised 02/28/14

Technical Documentation:

All testing was done at Certified Testing Laboratories, Orlando, Florida. The tests were conducted following the procedures of ASTM E330, Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference. The following test reports, signed and sealed by R. Patel, P.E. cover the Series 3100 doors contained in this report:

- Test Report No.: CTLA-1024W, date: February 20, 2003, (Series 3100, T1004) 12'-0" wide x 8'-0" high, +36.0 / -41.0 psf design pressure
- Test Report No.: CTLA-1194W, date: December 2, 2003, (Series 3100, T1004) 12'-0" wide x 8'-0" high, +36.0 / -41.0 psf design pressure, (Option 1 guide for steel)

Calculations prepared by Joseph H. Dixon, Jr. P.E.:

- Series 3100, dwg. T1004, attachment of guide, Option 3, to 14 gage minimum steel jamb thickness, 6 pages dated 6/18/09, plus drawing JI-3100G1-2SP dated 040704, and drawing JI-3100G1-2SN, dated 09/12/13
- Series 3100, Rolling Sheet Door Test, Calibration Calculations, dated 02/09/14, 2 pages
- Series 3100, dwg. T1004, rev E, Summary of Catenary Forces for alternative doors, Model 3100, 8'-0" to 16'-0" wide, dated 02/09/14

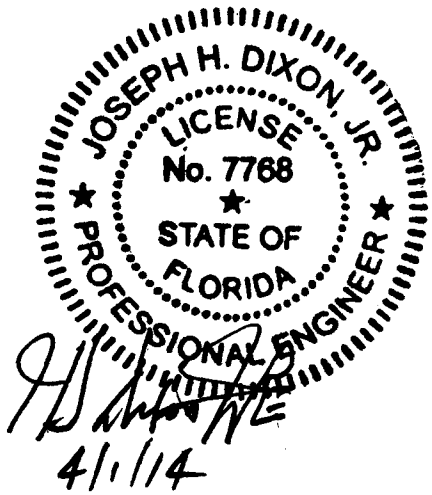


TABLE 1
Allowable Transverse Design Wind Loads (psf)

Series	Max. Door Width	Max. Door Height	Drawing Number	Design Load Positive	Design Load Negative
3100	< 8'-0"	20'-0"	T1004 E	77.4	86.4
3100	8'-0"	20'-0"	T1004 E	77.4	86.4
3100	9'-0"	20'-0"	T1004 E	61.3	68.9
3100	10'-0"	20'-0"	T1004 E	50.2	56.7
3100	11'-0"	20'-0"	T1004 E	42.1	47.7
3100	12'-0"	20'-0"	T1004 E	36.0	41.0
3100	13'-0"	20'-0"	T1004 E	31.3	35.8
3100	14'-0"	20'-0"	T1004 E	27.5	31.6
3100	15'-0"	20'-0"	T1004 E	24.5	28.1
3100	16'-0"	20'-0"	T1004 E	22.0	25.3

Design values used for the tests are shown in the boxed shaded values.
Maximum test load was 150% of design load.
Unshaded design wind loads were determined by comparative analyses using test results

Installation Requirements:

Installation requirements are described in the Janus International Corporation Installation Instructions as follows:

- Series 3100: 8 pages, Commercial Door Installation Instructions Series 3100

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4/1/14

Limitations and Conditions of use:

The use of any door is limited to buildings for which the design wind loads for wall components and cladding, determined in accordance with Section 1609 of the 2010 Florida Building Code, do not exceed the rated design wind loads of the door as shown in Table 1.

The maximum width and height limitations are shown in Table 1.

Doors are to be assembled as shown on the appropriate drawing referenced above, and the doors are to be installed in accordance with the installation instructions referenced above.

Door manufacturing is limited to those plants that have met the 2010 Florida Building Code Product Approval quality assurance requirements.

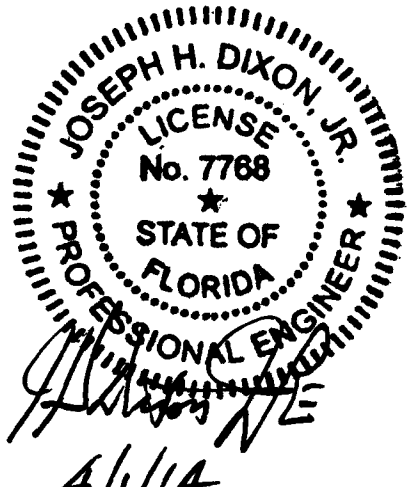
The doors covered by this report are not for use in the Florida High-Velocity Hurricane Zone.

Certification of Independence:

I, Joseph H. Dixon, Jr., certify that I am self-employed and operate as an independent contractor providing professional engineering services. I have no financial interest in nor will I acquire any financial interest in any company manufacturing or distributing products for which evaluation or validation reports have been issued by me.

Likewise, I have no financial interest in nor will I acquire any financial interest in any other entity involved in the approval process of those products for which I have issued reports.

Joseph H. Dixon, Jr. P.E.



4/1/14